Promethean **Activ**Care

The Importance of Projector Maintenance

www.PrometheanWorld.com/Warranty

Promethean

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Introduction

The following is a general guideline to the best practice for projector maintenance and the advice will vary depending on the type of projector in question.

Promethean strongly recommends that the projector user manual should always be consulted before any cleaning regimes are undertaken and / or changes are made to the projector, its settings or its components. The Promethean and/or Manufacturers' warranty is a warranty against 'failure' as a result of the product or components of the product failing as a result of workmanship or manufacture and not due to lack of or poor maintenance. Promethean cannot be held liable for any actions taken by customers that adversely affect projectors thereby causing faults not inherently related to workmanship or manufacture.

In order to sustain the lifetime of a projector it is imperative that the projector is regularly maintained in line with the user guide and manual. The frequency and type of maintenance is subject to numerous factors such as:

- **Operation of the projector**
- **Environment in which the projector is situated**
- **Type of Projector e.g. DLP/LCD**

LAMP MODE: NORMAL VS. HIGH

It is recommended that the projector is operated in a "Normal" mode rather than in a "High"[1] mode as this typically meets most user needs. Instances where "High" mode may be necessary is where lights in the room cannot be switched off and therefore the ambient light "washes out" the projected image, or where the room is of an extremely large size such as 300 seat auditoriums.

Persistent use of "High" mode forces the lamp to work at a higher capacity to achieve the greater light output and significantly reduces the lifetime of a lamp when compared to use in "Normal" mode. Therefore consistent use of the projector on the "High" mode for sustained periods of time will require more frequent lamp replacement.

TURNING THE PROJECTOR OFF

When turning the projector off utilising the correct "Power off" function on the remote control or on the projector, the projector is set-up to enter an "off" mode which sets in motion a cooling process to ensure that the projector is powered down in the optimal way to maintain the lifetime of the projector, its components and importantly the lamp.

Turning the projector off at the electrical supply socket prevents this cooling process from engaging and leaves the projector to cool according to ambient temperatures which may be too high or too low to allow the projector to cool down optimally and will affect the on-going operation of the projector. Not allowing the projector to cool down correctly means parts of the lamp can distort which can cause the lamp to fail to "strike" i.e. light up and equally ages the lamp prematurely.

[1] Use of the "High" or "Bright" lamp mode operates the projector lamp at a higher capacity than when in "Normal" or "Eco" mode. This can greatly decrease expected lamp life. Promethean's projector lamp warranty only covers lamps which fail as a result of poor workmanship or due to material faults which occur within the first 3000 hours or 3 years when operated in the "Normal" mode or if operated in the "High" or "Bright" lamp mode; the "corresponding" equivalent of usage hours. Additional Terms and conditions apply. Please visit www.PrometheanWorld.com/Warranty for more information.

A major determinant of a projector's functionality and longevity is the environment within which it is situated. Averagely high dusty or humid environments can cause unseen damage to a projector if not regularly maintained and serviced.

For example in dusty environments dust can settle both on the lamp and within the projector itself which can build up over time and cause both of these to overheat and thereby reduce their lifetimes. The effectiveness of lamps can be particularly affected as a result of dust settling on the lens as this dust can get burnt-on reducing the effectiveness of the lamp luminescence and causing projected images to appear washed out or blurred.

Projectors have a cooling system to draw air in to keep the projector at an optimal temperature during and after use. In order to prevent an excess of dust getting into the projector workings such as the electronics and fans, there are air filters which need to be regularly cleaned. If these are not cleaned on a regular basis these become clogged with dust which in turn prevents the air from circulating and causes the projector to overheat thereby causing damage to the projector.

If the air filters become blocked then air will continue to be drawn in through other sources in the projector which are unfiltered. This air contains dust particles which are then attracted to the hottest parts of the projector internals potentially causing overheating and further image degradation. In addition, this dust can then settle on the 'optics' which then require specialist cleaning.

High humidity environments further exacerbate the above situations as the moisture in the air adheres the dust particles to the parts of the projector causing overheating and dust collection to occur at a more rapid pace.

For these reasons, Promethean advise customers to check the Maintenance section of their user manuals to see which parts can and should be cleaned regularly according to the directions set out therein.

ESTABLISHING ENVIRONMENTAL CONDITIONS AND CLEANING REGIMES[2]

As each environment will have its own individual conditions it is difficult to definitively state what cleaning regimes will work best for individual projectors or indeed what type of environment it is. However, in order to begin to estimate the environmental conditions or relevant cleaning / maintenance regime we recommend that for the first 3 months after installation the filters (depending on type of projector) are checked on a weekly basis to gauge how affected these are by the environment.

If for example after the first week there is no effect to the filters, return to these the following week to check again. If there is still no change, then return to the projector the following week. After a month it should be possible to ascertain how affected the filters are by the environment and therefore a cleaning regime can be implemented accordingly. In all cases it should be determinable by the 3rd month of following the above checking process what kind of environment the projector is in.

If there is a build up of dust in the first few weeks then it is clear that the environment is subject to above average conditions and therefore a cleaning regime which matches the timeframe it took for the dust to build up would be advisable i.e. weekly, fortnightly, monthly etc... for the life of the projector. In any event, Promethean's recommendation is to check and clean filters every 30 days at a minimum.

[2] In the event that Promethean identifies that extreme environmental conditions have been the cause of any reported faults, Promethean reserves the right not to service the faults under its warranty provision when if "caused in whole or in part by extreme environment (including extreme temperature or humidity)" as per Section III, point A.4 of Promethean's Terms & Conditions available from www.PrometheanWorld.com/Warranty.

Depending on the type of projector the customer has, the cleaning regimes and cleaning capability will vary.

DLP PROJECTORS

Typically, DLP projectors do not have air filters which need to be cleaned, but they do have air filters which can be purchased and fitted for environments and geographical territories which experience above average heat, humidity and/or high levels of dust. In these sorts of environments the fitted air filters will require frequent replacement by the customer.

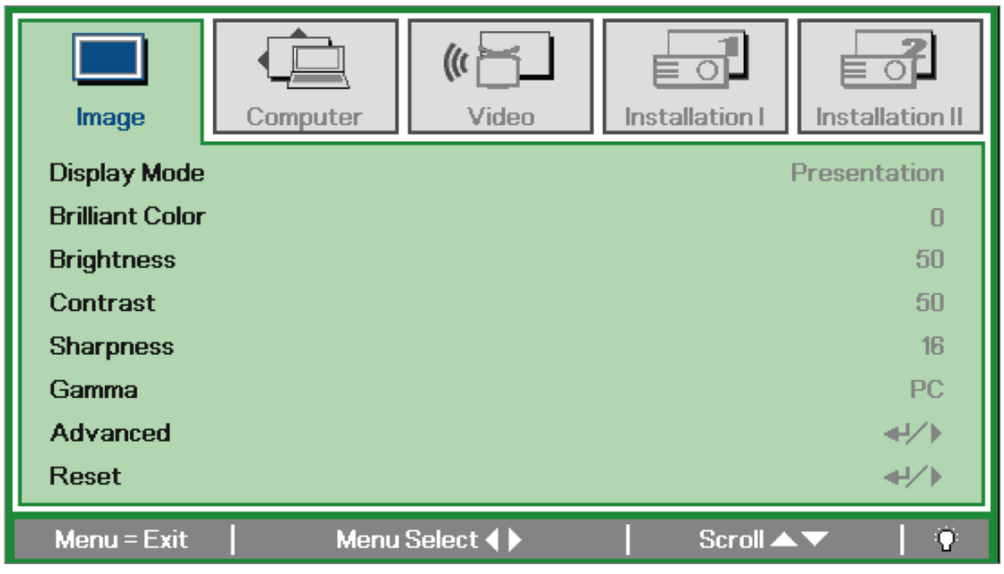
Additionally it may also be necessary for the projector to be sent for regular maintenance to a skilled service provider. Customers should contact Promethean for advice on the closest service provider to them. These providers are separate entities to Promethean and maintenance and filter replacement is not covered under the Promethean manufacturer warranty. For these reasons service providers are likely to make charges for maintenance work to be completed which Promethean cannot influence.

AUTO POWER OFF AND BLANK SCREEN FUNCTIONS

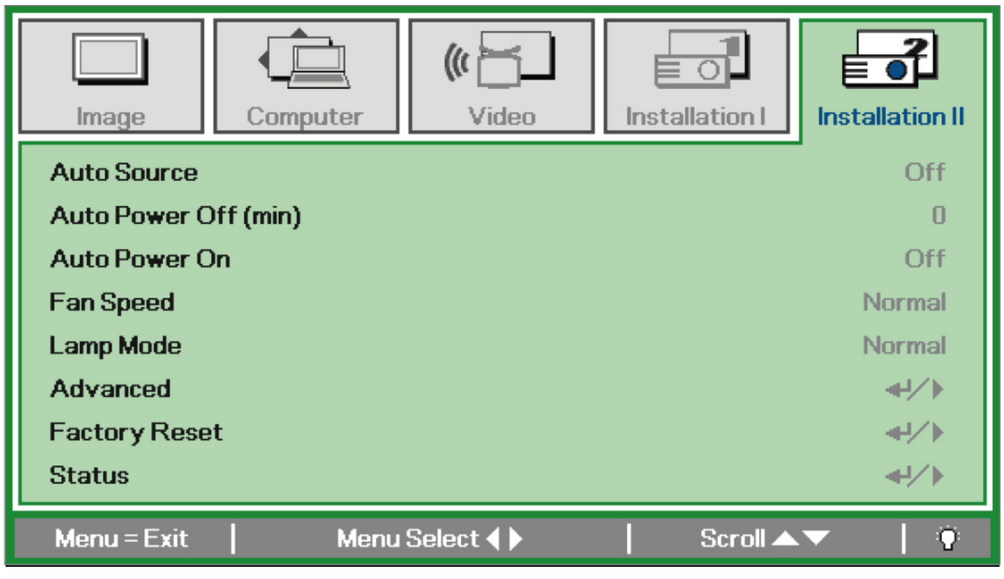
There are certain measures that can be taken to assist in maintaining the life of the projector, its parts and projector lamps. Examples of these are outlined below.

For **PRM-25/PRM-35/PRM-45/EST-P1/UST-P1** - Managing the shut-down process ensures that when the projector is not receiving any input it does not stay on unnecessarily (check the user manual if your model number is not present here). For example if a projector is turned on and at the end of the presentation, the presenter forgets to switch the projector off, the Shut-down Management will ensure that after the specified amount of time of it not receiving any input from say, the presenter's laptop, it will shut down automatically. Please see the following page for step by step instructions for the above models.

Step 1: Press the **MENU** button to open the **OSD** menu.



Step 2: Press the cursor ◀▶ button to move to the Installation II menu.



Step 3: Press the cursor ▲▼ button to move up and down in the **Installation II** menu and select "Auto Power Off (min)"

Press the cursor ◀▶ button to set the number of minutes before automatic shutdown of the lamp when no signal is detected.

We suggest that the timer should be set for between 3 and 5 minutes.

The use of the "Blank" button on the remote control is to "temporarily" hide the screen contents from the audience – whilst in this mode the lamp continues to run at a reduced output. Therefore, this option must not be used for long periods of time as this could cause premature ageing of the lamp.

LCD PROJECTORS

Filters prevent dust from accumulating on the optical elements inside the projector. Should the filter become clogged with dust particles, it will reduce cooling fans' effectiveness and may result in internal heat build up and adversely affect the life of the projector.

To maintain the life of the lamp, once the projector is turned on, wait at least five minutes before turning off. Also, the projector should not be left continuously running and should be off for approximately an hour in every 24 hours.

Promethean recommend avoiding dusty/smoky environments when you operate the projector. Usage in these environments may cause poor image quality. When you use the projector under dusty or smoky conditions, dust may accumulate on the lens, LCD panels, or optical elements inside the projector degrading the quality of a projected image. Symptoms can be flickering image, projector cut out, on/off at irregular intervals, poor colour images etc. When the symptoms above are noticed, customers should contact Promethean for advice on the closest suitably qualified provider to them to complete an internal clean of the projector.

Do not operate the projector with the air filters removed. Dust may accumulate on the optical elements degrading picture quality and require specialist cleaning. Do not put anything into the air intake vents. Otherwise it may result in malfunction of the projector.

Please also visit www.PrometheanKB.com and search for "10343". This is the identification number of an article specifically on Promethean LCD projectors.

LCD projectors sold by Promethean (PRM-10/PRM-20/PRM-20A/PRM-20A(S)/PRM-20AV1(S) and PRM-30) will have air filters and the cleaning regimes will vary as outlined in the "Establishing Environmental Conditions and Cleaning Regimes" section above. Below is some key information regarding these projectors.

PRM-10: There are 2 filters in the PRM-10 which must be cleaned by the end user at intervals dependant on the environment in which they are installed but there is no built in filter warning to prompt the customer to clean the filters. Instructions on how to clean these air filters can be found in the projector user manual and Promethean recommends filters should be cleaned every 30 days as this is a relatively simple task and is not time intensive to complete.

Additional Information: Check the LAMP REPLACE indicator. If it lights, the end of lamp life is approaching. Replace the lamp with a new one promptly (see pages 56-57, 63 of the user manual). For lamp control function, see pages 24, 46 and 59.

PRM-20: This projector has 2 air filters and has a built in filter warning capability which can be set to OFF/100H/200H/300H. Promethean suggest that this should not be set to any more than 100H[3] but as this is meant as a reminder only, Promethean strongly recommend that the filters be cleaned on a regular regime of every 30 days regardless of the hours used.

Instructions on how to clean these air filters can be found in the projector user manual and a sample of these instructions is shown below along with samples of what these filters look like and where they can be accessed from. Removing and cleaning the filters is a simple task and takes only a short time to complete.

Additional Information: Check the LAMP REPLACE indicator. If it lights, the end of lamp life is approaching. Replace the lamp with a new one promptly (see pages 57-58, 64 of the user manual). Check the lamp control function (see pages 24, 46 and 60).

There is also a section called "Lamp Handling Precautions" that states "Lamp life may differ from lamp to lamp and according to the environment of use" (see page 58 in user manual).

PRM-30: The filter in the PRM-30 was designed not to require cleaning (replacement only). The projector has a built in counter that will prompt the user when it is time to replace. This can be configured to be OFF/2000H/3000H/4000H – the user manual states that this should be "configured dependent upon the environment". Promethean advise this should in all instances of environment be set at 2000H.[4] Instructions on how these filters can be replaced are found in the User Manual and these should be followed precisely to ensure no damage is caused to the projector.

Additional Information: If a "Filter warning" icon appears on the screen, replace the filter immediately. Failure to do so, will lead to internal damage of the projector and invalidate the manufacturer warranty.

There is also a section called "Lamp Handling Precautions" that states "Lamp life may differ from lamp to lamp and according to the environment of use" (see page 65 in the user manual).

[3] Replacement filters are not provided by Promethean under warranties as these are considered to be Consumables and are therefore excluded from the Promethean Warranty as per Section III, point A.7 of Promethean's Terms & Conditions available from www.PrometheanWorld.com/Warranty.

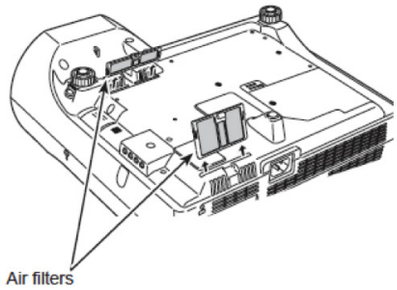
[4] In the event that Promethean identifies that incorrect or unsuitable changes in factory settings have been the cause of any reported faults, Promethean reserves the right not to service the faults under its warranty provision when these changes are viewed to have caused "extreme physical or electrical stress" as per Section III, point A.4 of Promethean's Terms & Conditions available from www.PrometheanWorld.com/Warranty.

Cleaning the Air Filters

Air filters prevent dust from accumulating on the surface of the optical elements inside the projector. Should the air filters become clogged with dust particles, they will reduce cooling fans' effectiveness and may result in a buildup of internal heat and adversely affect the life of the projector. Clean the air filters by following the steps below.

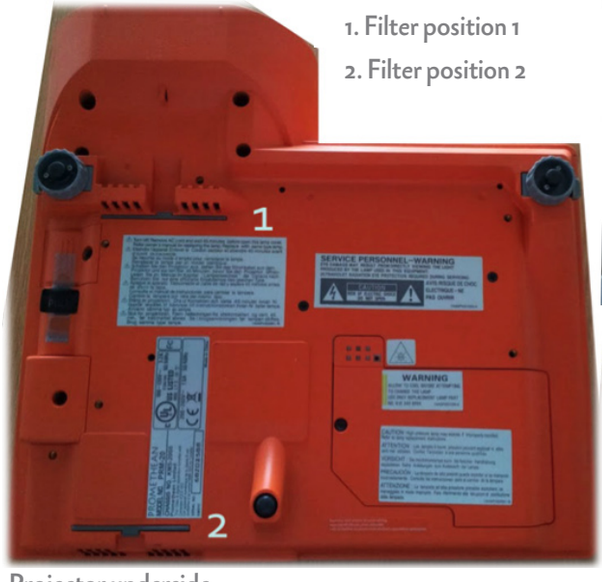
1. Turn off the projector, and unplug the AC power cord from the AC outlet.
2. Turn over the projector and remove the air filters by pulling the latches upward.
3. Clean the air filters with a brush or rinse them softly. When rinsing the air filters, dry them well.
4. Replace the air filters properly. Make sure that the air filters are fully inserted.

CAUTION
Do not operate the projector with the air filters removed. Dust may accumulate on the optical elements degrading picture quality. Do not put anything into the air intake vents. Otherwise it may result in malfunction of the projector.



Air filters
Pull up and remove.

✓**Note:**
When reinserting the air filters, be sure that the slit part is facing the outer side.

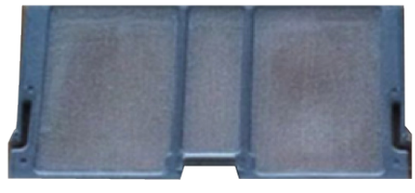


Projector underside

1. Filter position 1
2. Filter position 2

Filter 1

Filter 2



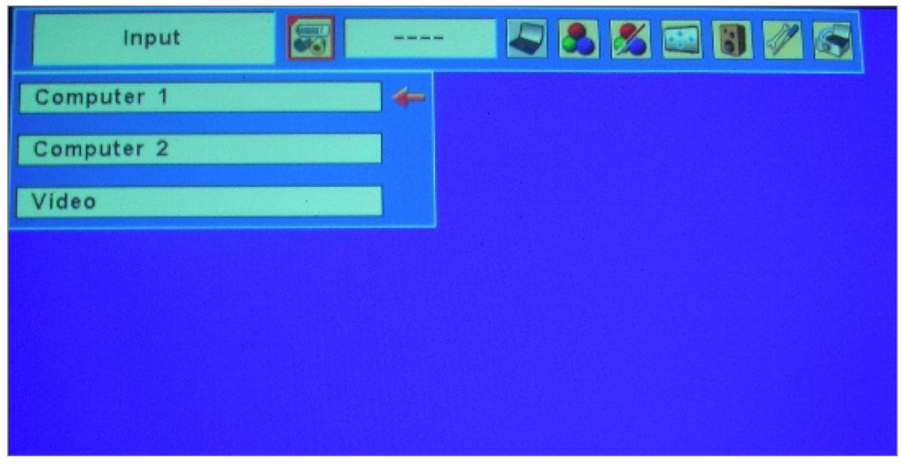
SHUT-DOWN FUNCTION[5]

There are certain measures that can be taken to assist in maintaining the life of the projector, its parts and projector lamps. Examples of these are outlined below.

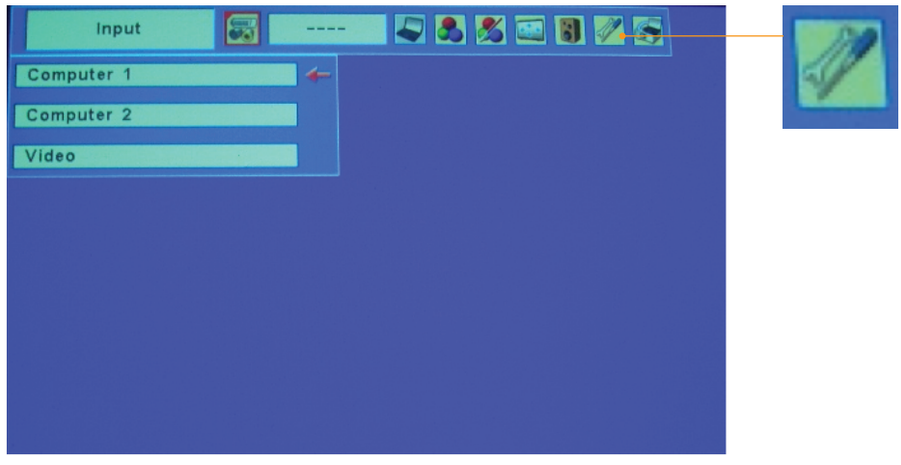
For **PRM-10/PRM-20/PRM-20A/PRM-20A(S)/PRM-20AV1(S) and PRM-30**: Managing the shut-down process ensures that when the projector is not receiving any input it does not stay on unnecessarily. For example if a projector is turned on and at the end of the presentation, the presenter forgets to switch the projector off, the Shut-down Management will ensure that after the specified amount of time of it not receiving any input from say, the presenter's laptop, it will shut down automatically.
Please see below for step by step instructions for the above models.

FOR PRM-10 AND PRM-20

Step 1: Press the **MENU** button to display the On-Screen Menu as shown below



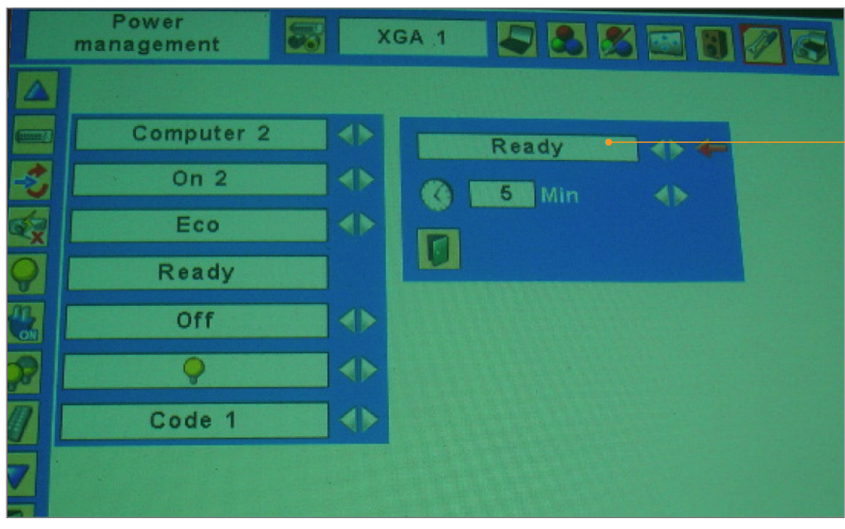
Step 2: Use the left / right arrows ◀▶ to move the red selection "box" to the Setting Menu icon as shown below and select



[5] In the event that Promethean identifies that incorrect or unsuitable changes in factory settings have been the cause of any reported faults, Promethean reserves the right not to service the faults under its warranty provision when these changes are viewed to have caused "extreme physical or electrical stress" as per Section III, point A.4 of Promethean's Terms & Conditions available from www.PrometheanWorld.com/Warranty.

Step 3: Use the up / down ▲▼ arrows to move the selection box to the Power Management icon as shown below

Step 4: Press "**Select**" twice and you will be presented with the screen as shown below



Power management setting menu screen

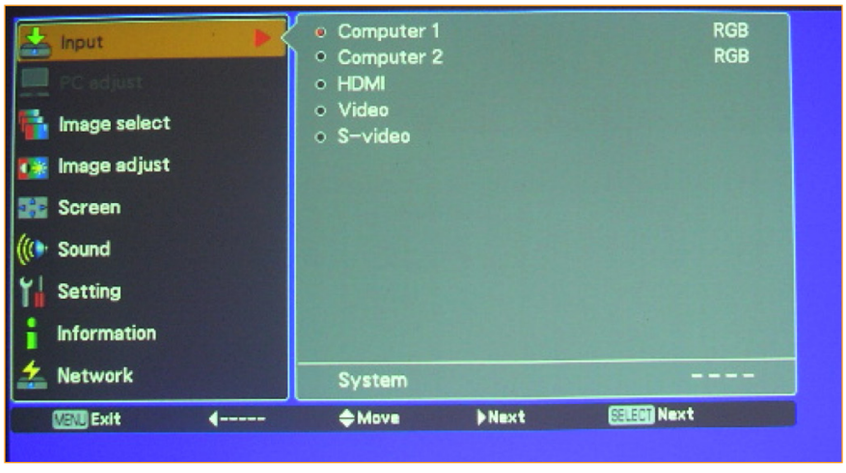
Step 5: Use the left / right buttons ◀▶ to select "**Shut Down**" and then

Step 6: Use the ▲▼ to move to the Timer option and then use the ◀▶ to set the required time.

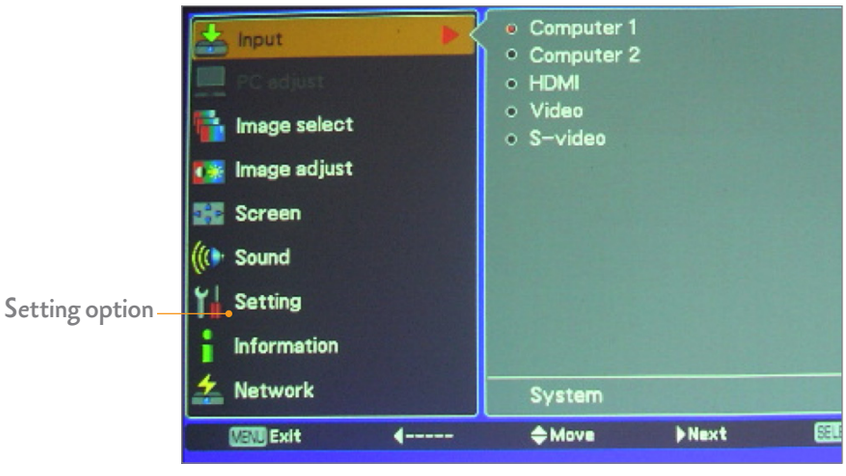
We suggest that the timer should be set for between 3 and 5 minutes.

FOR PRM-30

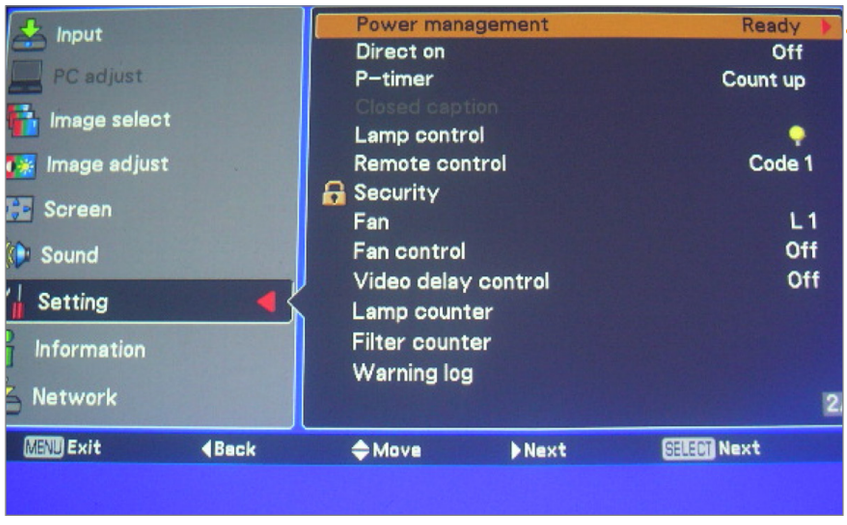
Step 1: Press the MENU button to display the On-Screen Menu as shown below



Step 2: Use the up / down ▲▼ arrows to select the "**Setting**" option as shown above and press the Select button to view the submenu options. You will be presented with the screen as shown below.



Step 3: Use the up / down arrows ▲▼ to select the "**Power Management**" option as shown above and press the Select button to view the submenu. You will be presented with the screen as shown below.



Step 4: Use the up / down arrows ▲▼ to select the "**Shut down**" option as shown and press "**Select**"

Step 5: Use the up / down arrows ▲▼ to select the "**Timer**" option as shown below and press "**Select**"

Step 6: Set the time using the up / down arrows ▲▼ to select the appropriate time and then press "**Select**" to set the timer.

We suggest that the timer should be set for between 3 and 5 minutes.

NO SHOW FUNCTION

The use of the "No Show" button on the remote control is to "temporarily" hide the screen contents from the audience – whilst in this mode the lamp continues to run at a reduced output. Therefore, this option must not be used for long periods of time as this could cause premature aging of the lamp.